

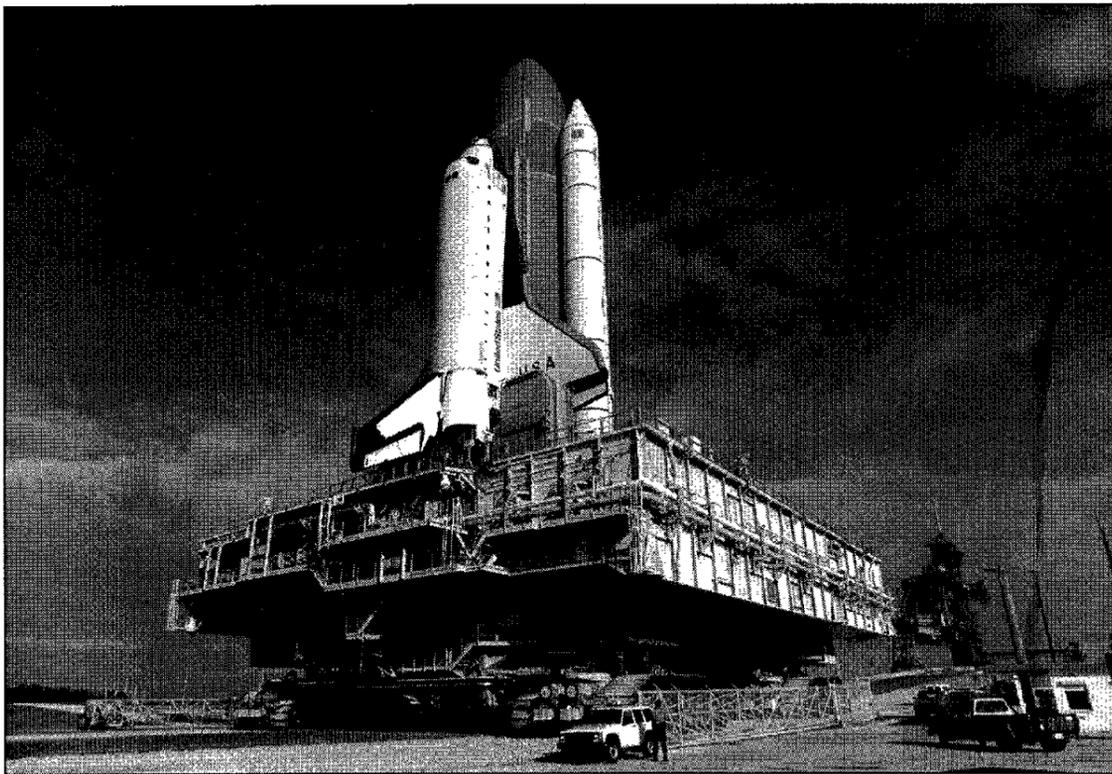


# Space News Roundup

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No. 42



**Columbia makes its way to Launch Pad 39B for STS-80.** The crew—Commander Ken Cockrell, Pilot Kent Rominger and Mission Specialists Tammy Jernigan, Tom Jones and Story Musgrave—was at Kennedy Space Center this week for a dress rehearsal of the Nov. 8 launch.

## Columbia cargo, crew in position for next mission

Columbia's two main cargoes for STS-80 are in its payload bay and the crew and the launch team have been through a dress rehearsal countdown as work toward a launch as early as Nov. 8 rolls ahead.

Shuttle managers are scheduled to meet on Monday for the Flight Readiness Review, a final, thorough review of preparations for STS-80, following which an official launch date will be announced.

STS-80 Commander Ken Cockrell, Pilot Kent Rominger, and Mission Specialists Tammy Jernigan, Tom Jones and Story Musgrave participated with Kennedy Space Center launch controllers in the Terminal Countdown

in the Bay 3 processing hangar, work this week included removal and replacement of the wiring associated with auxiliary power unit 2, which failed during *Atlantis'* last mission, STS-79. The APU itself, one of three such units that power *Atlantis'* hydraulic systems, was removed shortly after the mission and has



been at the vendor undergoing analysis. Other work included the removal of the three main engines used for STS-79 on Monday and Tuesday and functional testing of the forward reaction control system. The main engines for STS-81 will be installed during the first week of November.

Demonstration Test on Wednesday.

The ORFEUS-SPAS astronomy satellite and the Wake Shield Facility, both of which will fly free of *Columbia*, were installed in the orbiter's cargo bay Monday.

Other work included fueling the reaction control system and leak checks of the main engine plumbing.

Elsewhere, preparations of *Atlantis* continued for a January 1997 launch on STS-81, the fifth shuttle-Mir docking flight. Currently

in KSC's Bay 2 shuttle hangar, *Discovery* is being readied for a February 1997 launch on STS-82, the second Hubble Space Telescope servicing mission.

The three STS-82 shuttle main engines were installed in *Discovery* this week, and repairs of thermal protection blankets on the payload bay doors are continuing with the doors closed. Upcoming activities include the installation of the left orbital maneuvering system pod beginning next week.

## JSC area code changes next month

When JSC's area code changes next month employees may find it difficult to determine if they have to dial seven or 10 digits to reach their intended party.

The Texas Public Utilities Commission recently voted to split area codes in the Houston area. This

split requires all phones outside Beltway 8 loop, including JSC, to change to the new area code 281.

"But the most difficult aspect of the change is whether an individual has to dial seven digits or all 10," said Don White of the Information Technology Office. "This change in

area codes will not change internal calling at JSC and employees will still be able to call a five-digit extension to reach co-workers on site and at Ellington Field."

The new area codes will become effective Nov. 2, but employees will Please see **INFORMATION**, Page 4

## JSC employees receive Suggestion, Tech Brief, Patent Awards

JSC Director George Abbey presented JSC employees with Suggestion, Tech Brief and Patent Application Awards on Monday.

Robert Savey of the Business and Information Systems Directorate received a Certificate of Appreciation from the NASA Software Advisory Council.

Suggestions Awards were handed out to the Engineering Directorate's Marvin Williams, Roger Megason and Herbert Mitchell for the Orbiter Refueling Target Manufacturing suggestion; Paul Torrance of the Safety, Reliability and Quality Assurance Directorate for the Use of Government Surplus Cylinders for Blend Gas Orders suggestion; Beatrice Santos of Engineering for the Transport of Biological Sample Holding System Training Hardware to Russia suggestion; and Fulton Plauche and Howard Wagner of Engineering for the Teardown of Space Shuttle PRSD Cryogenic Tanks suggestion.

The Engineering Directorate collected the majority of Tech Brief Awards including; William Schneider for the Apparatus and

Method for Remotely Attaching to an Orbiting Spacecraft or Satellite; Kathryn Hurlbert, Michael Stagnaro, Chris Lovchik and Dominic Del Rosso for the WETF Inertial Training Sphere; Larry Li for the Control System for DeXterous Robots; Richard Juday for the Means and Apparatus for Optical Interconnections and Addressing Optical Storage Media; Douglas Holland for the M-JPEG Video Compression System for Space Based Applications; and Patrick Fink for the Ka-Band Solid State Amplifier/Phase Shift Module.

Other Tech Brief award winners from Engineering include Bernard Rosenbaum for the Wire Mesh for Disconnects Lightning Strike Protection; James Akkerman for the Pivot Bearing/Permanent Magnet; Ross Iacomini for the Tensioner Mechanism for Thermal Isolation of a Space Structure; Gregory Aber for the Blood Pump Bearing System; David Altemir and Michael Fowler for the Two-Sided Composite Manufacturing Tool; Steven Koontz for the NASA Micro Reactor Array Assay System; and Ted Tsai

for the Compact, Stiff, Remote-Activated Lightweight Quick-Release Clamp.

Engineering's William Schneider and John McManamen shared Tech Brief honors with Kornel Nagy of the Space Station Project Office for the Magnetic/Extendable Boom Docking Aid. William Schneider, Christopher Hansen, John McManamen, Steven Rickman and Sharon Whitcomb of Engineering and Gautam Badhwar of the Space and Life Sciences Directorate received a tech brief award for the Device for Vibrational and Thermal Control of Spacecraft Electronics - Method and Apparatus. Jose Limardo-Rodriguez of Engineering and Richard Sauer and Duane Pierson of the Space and Life Sciences Directorate received honors for their brief on Steam Heat Sterilization Process for Closed Packed Columns. Ronald Zaguli of the Space Station Project Office received an award for the Portable Foot Restraint Attachment Device and Space and Life Sciences' John Rummel was honored for the Program Integration Management System.

The Space and Life Sciences Directorate also took home a large number of Tech Brief awards including Steven Siconolfi for the Soft-Side Air Displacement Volumometer; Scott Smith for a Unique Urine Preservative with Combined Antibacterial and Antioxidant Properties; Smith and Helen Lane for a Novel Random-Sample Urine Collection Device For Use on Shuttle; Thomas Smith for the Spherical Gas Bearing; and Richard Sauer and Duane Pierson for the Water Microbiology Kit.

Other Space and Life Science Tech Brief recipients include Pierson for the Continuous Optical Biofilm Measurement System, Space Flight Compatible System to Study Microbial Susceptibility to Antibiotics, a Novel Set of Primers for Detection of Cytomegalovirus DNA in Body Fluids and Tissue and a Novel Polymerase Chain Reaction Method for Rapid Detection of Herpesviruses; and Deborah Harms for an Ambulatory Physiological Data Recorder for Assessment of Autonomic and

Please see **JSC**, Page 4

## Blaha continues research

Cosmonaut Researcher John Blaha, now into his second month aboard the Russian Mir Space Station, is working with his two crew mates to add to the base of knowledge on a variety of experiments by collecting data and processing samples under the NASA-Mir science program.

During his four months on orbit, Blaha is working on 40 different experiments in seven major areas of scientific investigation designed to answer vital questions about how humans, animals and plants function in space, how this solar system originated and developed, how to build better technology in space and how to better build future space stations.

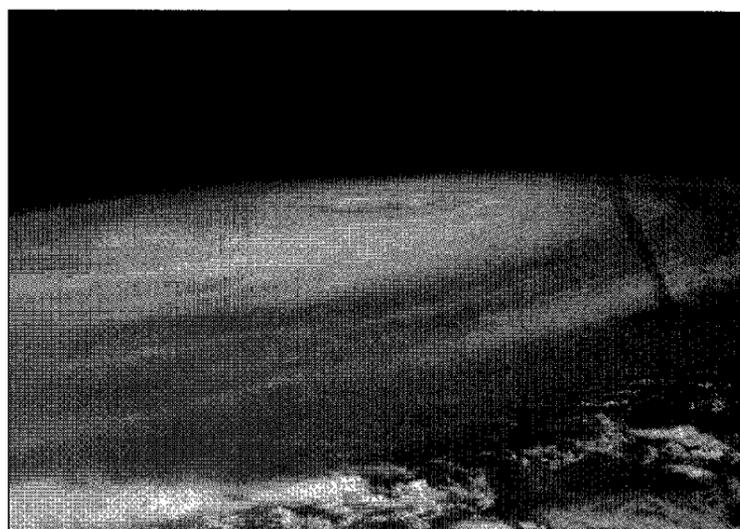
Earth observations are continuing throughout the joint mission, using cameras on board Mir to document

changes on the Earth's surface, providing researchers with a better understanding of the planet and its atmosphere. Recent observation areas include the Panama Canal zone, the central Namibian Coast, the South Falkland Island ocean currents and South Africa.

Other scientific investigations this week included work with the passive accelerometer system, which is meant to provide researchers with information on the amount of residual gravity present on Mir by observing the motion of a small metallic ball as it travels down a narrow cylinder.

In a recent interview, NASA-Mir program Operations and Training Manager Jeff Cardenas discussed Blaha's progress on Mir thus far.

"He's getting along very well, from Please see **SHEPHERD**, Page 4



**This STS-79 photo of Typhoon Violet north of the Philippines is similar to the Earth observations Mir 22 Cosmonaut Researcher John Blaha is performing on the Russian Mir Space Station.**

## White Sands provides ISO foundation

The lessons learned by the Hammer Award-winning team that made White Sands Test Facility the first NASA installation to meet ISO 9001 quality and management system requirements are directly applicable to JSC overall, the WSTF manager told senior managers last Friday.

One major element in the White Sands success was the direct involvement of the NASA and ATSC top management, WSTF Manager Grady McCright said in a special senior staff meeting. Deputy Manager Joe Fries served as the management representative, playing a key role in implementing Please see **ISO**, Page 4

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# Ticket Window

The following discount tickets are available for purchase in the Bldg. 11 Exchange Store from 10 a.m.-2 p.m. Monday-Thursday and 9 a.m.-3 p.m. Friday. For more information, call x35350 or x30990.

**EAA Spring Break Special to Rome:** March 8-15, \$1,099 double occupancy. \$200 deposit required. Final payment due Jan. 8.

**Texas Renaissance Festival:** Weekends through Nov. 17. Tickets cost \$11.50 for adults and \$5.25 for children 5-12.

**Fall concert:** Tickets are now on sale for the Bay Area Chorus performance at 8 p.m. Nov. 15 at the UHCL Bayou Auditorium. Cost is \$10 for adults and \$5 for students and seniors.

**EAA Belize Resort Trip:** Available through Dec. 15. Cost is \$472 per person double occupancy. \$100 deposit required with final payment due 30 days before departure.

**EAA Caribbean Getaway Cruise to Puerto Rico:** Jan. 3-13, \$1,198 double occupancy with airfare, \$999 cruise only. Final payment due Nov. 4.

**Sam Houston Race Park Track Pack:** \$10 value pack for \$5.25, includes Club Level seating, program, tip sheet, admission, preferred parking and gift shop discount.

**Space Center Houston:** Adult \$8.75; children (4-11) \$6.25, annual membership \$25.95, family membership (up to four) \$59.95.

**Movie discounts:** General Cinema, \$4.75; AMC Theater, \$4.50; Sony Loew's Theater, \$4.75. **Franklin Planner refills:** Now taking orders for 1997 calendars.

**Sweetwater Pecans:** \$5.65 per pound. Orders should be placed by Nov. 8 for the Nov. 18 delivery, or Nov. 29 for the Dec. 5 delivery.

**Stamps:** Book of 20, \$6.40.

**Entertainment '97 books:** Cost is \$25.

**Metro tickets:** Passes, books and single tickets available.

JSC

# Gilruth Center News

**Sign up policy:** All classes and athletic activities are first come, first served. Sign up in person at the Gilruth Center and show a NASA badge or yellow EAA dependent badge. Classes tend to fill up two weeks in advance. Payment must be made in full, in exact change or by check, at the time of registration. No registration will be taken by telephone. For more information, call x30304.

**EAA badges:** Dependents and spouses may apply for photo identification badges from 7:30 a.m.-9 p.m. Monday-Friday; and 8 a.m.-4 p.m. Saturdays. Cost is \$5. Dependents must be between 16 and 23 years old.

**Hatha Yoga:** A stress relieving, stretching and breathing exercise routine to unite body, mind and spirit.

**Nutrition intervention program:** A six-week program to learn more about the role diet and nutrition plays in health, including lectures, private consultations with a dietitian and blood analysis. Program is open to all employees, contractors and spouses. For more information call Tammie Shaw at x32980.

**Defensive driving:** One-day course is offered once a month. Pre-registration required. Cost is \$25.

**Stamp club:** Meets at 7 p.m. every second and fourth Monday in Rm. 216.

**Weight safety:** Required course for employees wishing to use the weight room will be offered from 8-9:30 p.m. Nov. 5. Pre-registration is required. Cost is \$5.

**Exercise:** Low-impact class meets from 5:15-6:15 p.m. Mondays and Wednesdays.

**Aikido:** Martial arts class meets from 6:15-7:15 p.m. Tuesday and Wednesday. Cost is \$35 per month. New classes begin the first of each month.

**Aerobics:** Classes meet every Monday, Tuesday and Thursday.

**Ballroom dancing:** Cost is \$60 per couple. For additional information call the Gilruth Center at x33345.

**Country and western dancing:** Beginner class meets 7-8:30 p.m. Monday. Advanced class meets 8:30-10 p.m. Monday. Cost is \$20 per couple.

**Fitness program:** Health Related Fitness Program includes a medical examination screening and a 12-week individually prescribed exercise program. For more information call Larry Wier at x30301.

JSC

# Swap Shop

## Property

Rent: Duplex, Santa Fe, TX, 3-1.5, formal LR/DR, appliances, central air/heat, brick, W/D conn, sm yard, adults, non-smokers, no pets, \$550/mo + security dep. 244-0250 or 409-925-7839.

Sale: Friendswood Imperial Estates II, custom brick 2 story, 3250 sq ft, 4-3-3, formal LR/DR, family room w/FPL, game room, .6 acre wooded lot, \$175k. Owner, 482-1535.

Sale: Wildwood/Seabrook, 3-2-2, many upgrades, ex cond, oak trees, additional .5 acre avail in the back. 474-3401.

Sale: Bay Forest, custom home, energy efficient, 3BR, den, LR/DR, wet bar, island kitchen, pool, by owner, \$229.9k. 488-3468.

Lease: Large living room, 3-2-2, FPL, many upgrades, close to NASA. Steve, 992-2841.

Lease: Middlebrook, 3-2-2, formal, fenced, fans, garage door opener, good cond, \$925/mo + dep. 486-8551.

Sale: Galveston historic home (1857), twice on Homes Tour, cover of "Houston Home and Gardens", 3BR, 2500 sq ft, 12 ceilings, 3 FPL's, \$145k. 409-762-4171.

Lease: Barringer Way condo, 2-1, W/D conn, pool, storage area, ex cond, no pets, \$495/mo. 486-2048.

Sale: 40 prime acres, house, barn, 15 mi East of Tyler, all amenities, \$120k. 488-5058.

Sale/Lease: University Trace condo, 2-2.5, DR, 2 covered parking spaces, W/D, new refrigerator, \$675/mo or \$47.9k. 280-0991.

Sale: Time share condo, Vail, CO. x30122.

Lease: Time share condo, Vail, CO, week of 12/7-12/14. x30122.

Sale: '93 Prowler 5th wheel trailer, 27-5N, loaded, ex cond, w/Reese hitch, \$11.3k obo. 470-8306.

Rent: South Lake Tahoe cabin, sleeps 8, except Xmas holidays, cable TV, VCR, microwave, 3-2, modern kitchen, W/D, \$85/night. x41065 or 326-2866.

Rent: Beach house, West Galveston, Jamaica Beach, 2nd row beach, all amenities, sleeps 7, winter rates. 488-6796.

Rent: Beach house, Crystal Beach, TX, Galveston County, sleeps 10, furnished, ocean view, weekly & weekend rates. 486-1888.

Rent: Arkansas cottage overlooking Blue Mt Lake, furnished, wooded, 4 aces, screen porch, antiques, \$250/wk, \$50/day. x47806 or 334-7531.

Rent: Galveston condo, furn, sleeps 6, Seawall Blvd & 61st ST, cable TV, wknd/wkly/dly rates. Magdi Yassa, 333-4760 or 486-0788.

## Cars & Trucks

'79 F150 Super Cab, cold A/C, 460, auto, dependable, 8' bed w/toolbox, many new parts, \$1k. 409-925-7939.

'89 Mazda RX7 GXL, black, 5 spd, A/C, sunroof, AM/FM/cass w/equalizer, pwr, cruise, ex cond, 62k mi, \$7.5k. x48640 or 332-9720.

'85 Chevy full size pickup, 120k mi, \$3k obo. Dan, 333-7312.

'89 Plymouth Voyager, LE, V6, loaded, ex cond, new tires, 1 owner, \$5.8k. 282-4224 or 488-1397.

'83 Toyota Corolla, \$650; '88 Honda CR125, \$850; '91 Honda CR125, \$1,150. 332-0330.

'97 Ford F150XL, champagne, V8 4.6L, std,

chrome rims, short bed, 6k mi, assume loan \$1.5k. Jason, 481-5594.

'76 Corvette Sting Ray, T-top, A/C, pwr, ex cond, white/red, inter white leather seats, \$10k. 488-6526.

'95 Suburban LXT, maroon/tan trim, all leather, loaded, ex cond, 35k mi, \$26.9k. Gene Cernan, 827-9922.

'92 Toyota pickup, SR5, pwr, A/C, AM/FM radio, well maintained, 100k mi, \$8,150. x38501 or 980-7481.

'83 Olds Cutlass 4 dr, V6, loaded, well maintained, looks nice, runs great, \$1.4k obo. x41065 or 326-2866.

'81 Chevy Camaro Z-28, loaded, low mileage, ex cond, \$4k. 480-2058.

'94 Chevy Suburban Silverado, custom running boards, bug shield, CD player, blue/silver, 1 owner, ex cond, \$21k obo. 338-9714.

'91 Geo Metro, 4 dr, red, A/C, AM/FM/cass, 5 spd, ex cond, 110k mi, \$2.7k obo. 484-3357.

'90 T-Bird, V6, AT, white, 66k mi, 1 owner, garaged, non-smoker, ex cond, \$5.5k. Sampson, x34962 or 992-4415.

'84 Honda CRX, 5 spd, radio, no A/C, runs good but body shows age, \$1.6k obo. x40077 or 996-0462.

'93 Camaro Z28 Coupe, loaded, auto, 53k mi, teal paint, new Z rated tires, \$13.8k. 486-6500.

## Boats & Planes

'93 Crownline 19'6" bowrider, Merc V8, loaded, custom cover, Shorelander custom trailer, \$13.9k. Don, x38039 or 333-1751.

## Cycles

'89 Honda CR250, adult owned, ex cond, accessories, riding equip and spar parts include, \$2k obo. Rusty, 212-1450 or 481-5498.

'86 Honda XR100R, mid sized dirt bike, new chain, sprockets, fuel tank, reliable, \$450 obo. Mark, x35597 or 554-5156.

Man's Raleigh 10 spd bicycle, ex cond, \$50. Jim, x30411 or 483-0411.

## Audio Visual & Computers

Panasonic printer, KXP-1592 dot matrix, 17" wide carriage, friction and tractor feed. \$50. 409-925-7939.

IBM PSI, 486 DX, 12 Mb memory w/display, \$500. Bob, 333-3620.

Lapis Pro color service 24x color graphics card for Mac SE/30, \$200. 480-3424.

Mother Board, 486-DX2-66, 8 Mb RAM, VLB w/Trident video card and VLB IDE controller card, \$110. Jeff, x38424 or 992-9571.

Packerd Bell 386/16, 540 Mb HD, 4 Mb RAM, 14" color monitor, 2400 baud modem, misc software, ex cond, \$200. 488-3966.

Sanyo dual cassette deck, \$25; Pioneer AM/FM/TV tuner, \$75; Sansui integrated amp, 150 watt/channel, \$75. Steve, 480-6415.

Pioneer KEH-M7500 car radio/cass deck, detachable face, CD changer controls, many features, \$150; Pioneer CDX-M30 CD 6 disc changer, w/FM modulator, \$200 or \$300 for both w/o modulator. Lisa, x40213 or 992-7302.

AXIOM Elite 5 IBM daisy wheel printer good for word processing tasks/no graphics, \$30; York multi-

## Today

**CTAP workshop:** The Career Transition Assistance Program will hold a "Starting a Business" workshop at 8:15 a.m. Oct. 25 in Bldg. 45 Rm. 304. For more information call Keisha Gilbert at x34300.

**CTAP workshop:** The Career Transition Assistance Program will hold a "Becoming a Consultant" workshop at 1 p.m. Oct. 25 in Bldg. 45 Rm. 304. For more information call Keisha Gilbert at x34300.

**Reservations due:** The Performance Management Association, Houston chapter, will host a luncheon workshop on the "Implementation of an Earned Value Management System" at 11:15 a.m. Oct. 31 at the Ramada Inn on NASA Road 1. The discussion will focus on "Data Analysis and Reporting as well as Surveillance and Compliance Reviews." Cost is \$13 and includes lunch. Reservations are due by Oct. 25. For more information call Susan Widmer at x34299.

**Radio club meets:** The JSC Amateur Radio Club will meet at 7 p.m. Oct. 24 at Nassau Bay City Hall. For more information call Karl Silverman at x31047.

**Papers due:** Paper abstracts for the 34th Space Congress, "Our Space Future: Uniting for Success," are due by Oct. 25. The 200 word abstracts should be sent to William Holden, technical papers chairman, mail code IM-SST, KSC, Florida 32899 or email William.Holden-1@kmail.ksc.nasa.gov, with the authors professional affiliation, return mailing address, email, fax and phone number attached.

**Cafeteria menu:** Special: tuna noodle casserole. Total Health: baked potato. Entrees: steamed salmon steak, baked chicken, fried cod fish, ham steak. Soup: seafood gumbo. Vegetables: French cut green beans, cauliflower with cheese, green peas, black-eyed peas.

## Saturday

**Halloween dance:** The Employee Activities Association will host a dinner dance at 7 p.m. Oct. 26 at the Gilruth Center. The Southern Cross Band will perform and costumes are encouraged. Tickets cost \$15 and include dinner. For more information call Mavis Ilkenhans at 244-9644.

## Monday

**Cafeteria menu: Special:** breaded cutlet. Total Health: crispy baked chicken. Entrees: stir fry pork and rice, baked chicken, smoked sausage with German potato salad, French dip sandwich. Soup: cream of broccoli. Vegetables: okra and tomatoes, peas, navy beans, baby carrots.

## Tuesday

**Cafeteria menu:** Special: fried chicken. Total Health: vegetable lasagna. Entrees: Salisbury steak, steamed pollock, vegetable lasagna, French dip sandwich. Soup: split pea and ham. Vegetables: mixed vegetables, French cut green beans, pinto beans, vegetable sticks.

## Wednesday

**Spaceland Toastmasters meet:** The Spaceland Toastmasters will meet at 7 a.m. Oct. 30 at the House of Prayer Lutheran Church. For more information call Jeannette Kirinich x45752.

**Spaceteam Toastmasters meet:** The Spaceteam Toastmasters will meet at 11:30 a.m. Oct. 30 at United Space Alliance in the Civic Room at 600 Gemini. For more information call Pat Blackwell at 282-4302 or Ben Black 282-4166.

**Astronomy seminar:** The JSC Astronomy Seminar will meet at noon Oct. 30 in Bldg. 31, Rm. 129. An open discussion meeting is planned. For more information call Al Jackson at x35037.

**Cafeteria menu: Special:** stuffed bell pepper. Total Health: baked potato. Entrees: stir fry chicken & rice, wieners & beans, fried fish,

western special, beef, chicken sausage, Reuben sandwich. Soup: seafood gumbo. Vegetables: buttered rice, Italian green beans, com O'Brien, peas and carrots.

## Thursday

**NMA class:** The Texas Gulf Coast Council of National Management Association is hosting a 10-hour money management seminar from 6-9 p.m. Oct. 31 at 600 Gemini and Nov. 6 and 13 at 2400 NASA Road 1. Cost is \$50 per couple for members and \$75 per couple for nonmembers. For more information call Richard Hergert at 280-0444.

**Radio club meets:** The JSC Amateur Radio Club will meet at 7 p.m. Oct. 31 at the Nassau Bay City Hall. For more information call Larry Dietrich at x39198.

**PMA workshop:** The Performance Management Association, Houston chapter, will host a luncheon workshop on the Implementation of an Earned Value Management System at 11:15 a.m. Oct. 31 at the Ramada Inn on NASA Road 1. The discussion will focus on "Surveillance and Compliance Reviews." Cost is \$13 and includes lunch. For details call Susan Widmer at x34299.

**Cafeteria menu:** Special: barbecue smoked link. Total Health: roasted turkey breast. Entrees: turkey and dressing, beef stroganoff, steamed pollock, French dip sandwich. Soup: tomato Florentine. Vegetables: Spanish rice, lima beans, buttered squash, oriental vegetables.

## Friday

**Cafeteria menu:** Special: meat sauce and spaghetti. Total Health: baked potato. Entrees: rainbow trout, liver and onions, beef cannelloni, ham steak, fried cod fish, Reuben sandwich. Soup: seafood gumbo. Vegetables: steamed broccoli, breaded okra, cut corn, black-eyed peas.

\$250. 992-8764.

Round oak dining room table, 4 dining chairs; dishwasher. 486-1888.

Wooden dinette table w/chrome legs, \$65; 2 cream dinette chairs, w/chrome legs, \$40; blond simulated chest of drawers, \$120. 998-2293.

Pair of glass table lamps, \$40; clay Indian plant pots, \$25 ea or \$40 both. Su, x45722.

Twin size trundle bed, medium color wood w/2 mattresses, in very good cond, \$200. 332-8319.

Sleeper sofa, \$100; love seat, \$75; recliner, \$75; all in good cond. 554-6138.

Queen size bed set, mattress/box springs, metal frame, \$125; microwave oven, over-the-stove style, good magnetron but needs "smart board", new \$400 sell \$30. Ed, 481-4889.

## Wanted

Want personnel to join VPSI vanpool departing Sugarland, via Westwood Park-&-Ride, HOV lane for JSC and offsite locations. Alice, x35234.

Want personnel to join VPSI vanpool departing MeyerLand Park and Ride lot at 7:05 a. m. for JSC. Vanpool consist of on-site personnel working the 8 a.m./4:30 p.m. shift. Don Pipkins, x35346.

Want roommate, lg 4-2-2, Seabrook, separate loft/living area, phone, cable/fax, W/D, \$375. 474-4742.

Want non-smoking female to share 4-2 home, Clear Lake, no children or pets, \$300 mo + 1/3 utili. Karen, 480-3324.

Want roommate, non-smoker, share 4-2-5-2 house in Clear Lake, \$250 mo. 286-5248.

Want 1 roommate, non-smoker, share 4-2 in Friendswood home, cable, W/D, microwave, VCR, gas grill, all household privileges included, 20 min to NASA, \$250 mo all bill pd, no dep. Michael, x38169 or 482-8496.

Want housemate, professional, non-smoking, Clear Lake, Meadowgreen, newly remodeled, lg kitchen, pool and Jacuzzi, furn bedroom, \$290 + 1/4 electricity. Ken, x31496 or 286-7583.

Want 16mm camera and projector, or 35mm movie camera. Michael, x38169 or 482-8496.

Want large bathroom or wall mirrors, minimum size 3' x 4'. Scott, x34330 or 337-5670.

Want freezer in good working condition for garage. Jeff, x38424 or 992-9571.

Want Gott-style insulated water cooler. Jeff, x38424 or 992-9571.

Want low priced school/work car or truck, prefer Japanese. 271-7011.

Want space memorabilia for a private collection, flown items e.g.-utensils, clothing; autographs on photos, covers, letters relating to Mercury/Gemini/Apollo, Skylab/Shuttle. Richard or Nancy, 481-8080.

**Miscellaneous**

Heavy duty wood playground equipment w/playhouse, you take down and haul, \$250 cash only. x36696 or 332-9102.

MARES wetsuit, men's med, 3mm, fullbody, zipper on back, \$90 obo; DACOR booties, men's sz 9, women's sz 6, \$15 ea obo; Neoprene weight belt, men's, \$20 obo. Jeri, 333-7552.

Body Tech home gym, ex cond, 4 station, dual stack, \$599. 482-9576.

Spa and gazebo, 3 yrs old, spa 8'x8' seats 8, red-wood gazebo 13'x20', \$3k obo. 471-7442.

Belly More 38' cut for John Deere Lawn Tractor, \$150 obo. 332-5345.

Pet/reptile cage, 4 tempered glass sides, formica over plywood floor, electric cord, access, sturdy, new cond, 2'x2'x4', \$125 obo. Dan, 482-7550.

Hay for sale; square bales, \$4 ea. 409-925-8869.

Fisher Price car seat, \$25; red fiberglass truck bed cover w/locks, fits Toyota pickup, '85 - '95, \$175; wood aquarium stand w/door, \$40. 480-3424.

Bicycle, boys Redline 240, \$125 obo; AJAY motorized treadmill, \$75; Flex cts weight training center, \$100 obo; 2 lawnmowers, \$25/\$50. 554-2320.

Joelle designer wedding dress, white, sz 6/8, short train, off-the-shoulder, long sleeve, veil, petticoat, new \$1.2k sell \$400; heart-shaped wedding guest book, \$35. Su, x45722.

Black and gold formal, shapless evening gres, ex cond, sz 8, \$25; gas logs, ex cond, large set 8 logs, was \$275 sell \$150. Lorraine, 480-0014 x33.

Ruger-77, 243 cal, scope, etc, \$450; w/o scope, \$415; Remington 700, 30-06, outstanding stock, scope rings, \$450. Charles, x37678 or 661-4789.

Health Rider, 1 yr, ex cond, new \$600 sell \$300. 996-5388.

Remington model 870, 12 gauge shotgun, walnut stock, \$160. x33213.

Baseball cards for sale, individual stars, sets and commons, selling everything. Steve, x37042 or 992-7468.

Huff Sports portable pole system w/ratchet elevator, already assembled, \$150; combo soccer/baseball, kick, catch and throw net, \$30. x31293.

Nordirac Sequoia, \$300. Djuna, x47503 or 480-4695.

Simmons white baby crib and mattress, \$225; crib bedding, baby toys, boy clothes, all in very good cond; Peg Perego high chair, pastel colors and white, 3 height positions, on casters w/brakes, good cond, new \$190 sell \$80. Rose, x37491 or 337-7373.

Pentax IQ zoom 35mm-70mm tele-macro lens, auto film advance, timer, built-in flash, camera case, \$65; Panasonic Bread Bakery automatic bread maker, SD-BT56P, w/yeast dispenser, 13hr timer, choice of bread and baking modes, ex cond, \$140. Jana, x47624.

Truck bed liner will fit Chevy short bed, "Dualine", 60" x 80". x38204.

Pecan lumber for sale, air dried 1 year, 1" and 2" thickness. x36132 or 334-6825.

Kastan BMX racing bike, Technique cranks Kevlar seat, ready to race, ex cond, make offer; Balance BMX racing bike, Technique cranks, Kevlar seat, ready to race, ex cond, make offer. 534-3279.

TREK 1200 road bike w/accessories, \$620; Minoura Mag Roller Assy, \$100; Kreitter Stand, \$300; all in good cond, \$650 all. 481-1518.</



# Exchange Change

## Complete review leads to changes in services, activities available to JSC, contractor employees

**A** "top to bottom" review by the NASA/JSC Exchange Council and the Employee Activities Association soon will lead to a number of changes in the services and activities provided for JSC and contractor employees.

The changes will involve small cost increases to employees for some activities, but also will improve the quality, variety and flexibility of services available.

- Improvements that are in work include:
- Remodeling of the cafeterias to improve lighting, reduce noise and update the serving and seating areas at both cafeterias;
  - Reopening the JSC Exchange Store in the Bldg. 3 cafeteria and broadening the inventory of store items;
  - Increasing the choice and availability of event tickets offered through the stores;
  - Opening up food service at the Gilruth Center to off-site commercial caterers and restaurants to broaden choices for groups planning events;
  - Increasing the opportunities for organizations to use the Gilruth Center facilities for "pot luck" dinners;
  - Providing contractor involvement and input through representation on the Exchange Council; and
  - Adding new "heart healthy" items on the cafeteria menus.

Changes in services and fee structures that may affect individual employees include:

- Shortening lunch service at the cafeterias (closing at 1:30 p.m. instead of 2 p.m.);
- Moving from a mixed beverage liquor license to a beer and wine only liquor license at the Gilruth Center;
- Requiring an annual badge beginning Jan. 1, 1997, for all users of weight room, athletics, gymnasium and leisure training at the Gilruth (\$10 for civil service, contractors, retirees and their dependents, \$25 for outside team members and \$90 for weight room patrons);
- Moving to a single-fee structure for all team sports and raising fees to more closely

approximate what other area providers charge; and

- Pricing all EAA events to break even.

"We are committed to providing a broad array of cafeteria, catering, recreation, vending and store services for employees, but we just can't afford to subsidize them as much as we have in the past," said Harvey Hartman, JSC Director of Human Resources and chairman of the Exchange Council. "We just have to share the cost a little differently."

The plans are being driven in part by a major change in Space Center Houston's financial commitment to Exchange activities after its bond debt was restructured and in part by a need to address how the Exchange was meeting its customer needs.

When Space Center Houston was created, the elimination of the self-guided walking tours of JSC moved public sales from the Exchange Stores to Space Center Houston. In return, Space Center Houston provided the Exchange with a commitment for annual financial support. Last year, that amounted to \$600,000. When lower than anticipated attendance coupled with high debt service requirements led Space Center Houston to restructure its bond debt earlier this year, one of the out-

comes was that Space Center Houston's contribution to the Exchange was reduced to \$100,000 a year, Hartman said.

In addition, changes in customer needs and the make-up of the NASA/contractor work force are altering the kinds of services and activities being sought. One specific activity affected by these changes was the annual JSC picnic.

"We elected to move the JSC picnic to Astroworld a couple of years ago in part because fewer people were willing or able to volunteer their time to help put on a big event like this. That's neither good nor bad, just a sign of the changing times. Incidentally, when we made the change our participation went up from 2,500 to nearly 4,000 NASA and contractor employees," Hartman said.

Teams of Exchange Council members and employees were established this past summer to look for economies in each of the council's business operations, which include the cafeterias, the Gilruth Center, the Exchange business office, the EAA, and the store. Exchange Council management also

worked with the Center Operations Directorate to seek center support for maintenance and operations in selected areas. In addition, contractor organizations are being invited to contribute financial support to the Exchange activities since their employees also benefit from the wide variety of services offered.

The Exchange Council is appointed annually by the center director to manage employee services such as cafeterias, stores, recreation programs and vending services. The EAA acts as the representative arm of the Exchange and coordinates a variety of activities such as trips, dances and ticket sales. EAA representatives from each division-level organization provide input on employee needs and preferences. They also serve as a focal point to enlist volunteers to support activities.

"We're very interested in effectively meeting the needs of all the members of our NASA team. I believe these changes will help us move in that direction," Hartman said.

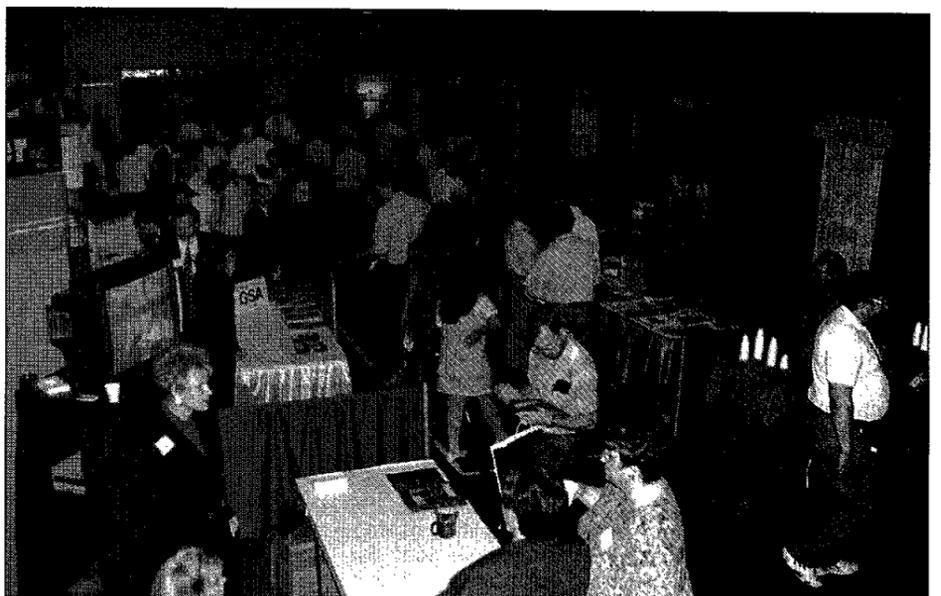
Anyone who would like more information or who has ideas on how to meet the current challenges is invited to contact Exchange Council members or their EAA representative. □

### 1996 Exchange Council

Name	Membership	Phone Number
Harvey Hartman	chairman	x32358
Teresa Sullivan	operations manager	x38970
Curtis Collins	alternate manager	x33002
Daniel Remington	legal advisor	x31004
Debra Johnson	member	x34157
Gloria Demers	member	x30548
James Shannon	member	x32922
Lili Moore	member	x39022
Guy King	vice president athletics, EAA	x38966
Richard Thorson	member	x30541
Ginger Gibson	president, EAA	x30596
John Beall	treasurer	x32101
Cynthia Draughon	secretary	x31098
Ann Patterson	executive vice president, EAA	x33367
Lee Pagel	member	x47223
John Arnold	member	x34788
William Langdoc	member	x35970

### Helpful Numbers

Bldg. 3 cafeteria .....	x30240
Bldg. 11 cafeteria .....	x55029
Daily menu .....	x30241
Exchange Store .....	x35354
Ticket information .....	x35350
Gilruth Center Recreation Information .....	x30303
Catering, Room Reservations ..	x30326
Gym Office .....	x30304
Rainout hotline .....	x38655



Exchange Operations and the Employee Activities Association provide a variety of services to JSC employees, including banquet facilities, cafeteria services, conferences and sports and fitness facilities. From top to bottom, left to right: 1) JSC Director George Abbey, right, talks with Herbert Carter, keynote speaker during this

year's Black History Month observance at the Gilruth Center. 2) Matt Abbott of the Flight Design and Dynamics Division redeems cafeteria coupons to Bea Lara, a Bldg. 11 cafeteria cashier, during a special promotion. 3) JSC employees crowd into the Gilruth Center gym during a computer expo.

# JSC team effort results in software honorable mention

(Continued from page 1)

Gastric Function.

Tech Brief Awards also were given to Keith Brown of the Business and Information Systems Directorate for Windows Controlled Ecological Life Support System Simulator and Arne Aamodt of Mission Operations for the Payload Changeout Room Relative Height Monitor.

Patent Application awards also were handed out to several Engineering Directorate employees including Dickey Arndt for Microwave Treatment for Cardiac Arrhythmias and Particle Velocity Measuring; Charles Verostko for Fiber-Optic Chemiluminescent Biosensors for Monitoring Aqueous Alcohols and Other Water Quality Parameters; Richard

Juday for the Method and Apparatus for Improved Spatial Light Modulation and the Method and Apparatus for Modulating Light Using Spatial Light Modulators; James Akkerman, Gregory Aber and Richard Bozeman for the Rotary Blood Pump; Bozeman for the Accelerometer Method and Apparatus for Integral Display and Control Functions; Gregory Aber for the Blood Pump Bearing System; William Schneider for the Method and Apparatus for Coupling Space Vehicles; and David Aitemir for the Micromechanical Oscillating Mass Balance.

Patent Application awards also went to Space and Life Sciences' Victor Whitehead for the Polarization Perception Tool and Lakshmi Putcha for the Preservation of

Liquid Biological.

Flight Crew Operations' David Wolf shared honors with Thomas Goodwin of Life Sciences for a Method for Producing Non-Neoplastic, Three-Dimensional Mammalian Tissue and Cell Aggregates under Microgravity Culture Conditions and the Products Produced Therefrom. Goodwin also was honored for his Recombinant Protein Production and Insect Cell Culture and Process.

A Software Author Award went to Keith Brown of the Business and Information Systems Directorate for Windows Controlled Ecological Life Support System Simulator.

Space Act Board Awards were given to Goodwin for the Recombinant Protein Production and Insect Cell Culture and Process;

Engineering's Edward Chimenti, Carlos Ortiz-Longo, Steven Rickman and Robert Vogt for the Thermal Synthesizer System; Dickey Arndt and Thanh Nguyen for the Capacitance Probe for Fluid Flow and Volume; Alice Lee of the Safety Reliability and Quality Assurance Directorate for a Quantitative Software Risk Assessment Tool; and Joel Stoltzfus of White Sand Test Facility for the Method and Apparatus for Production of Powders.

In addition, Huyen-Anh Ly and Lui Wang of the Business and Information Systems Directorate and Anthony Griffith of Mission Operations received an honorable mention for the Software of the Year Award for the Electronic Documentation Project.

## Information systems helping to ease area code transition

(Continued from page 1)

have until May 3 before the 713 area code is eliminated outside Houston's outer loop. During this transition, a phone in the new 281 area can be reached by dialing either the 713 or 281 area code. Local calls to numbers within the 281 and 713 areas will be accessible by dialing the seven-digit number. Beginning May 3, the 10-digit number will be required when calling across the 281/713 area code boundary.

Long distance toll calls to JSC can be made using either the 713 or 281 area code until May 1997. After May 3, the only way to reach a JSC phone from outside the 281 area will be to use the 281 area code.

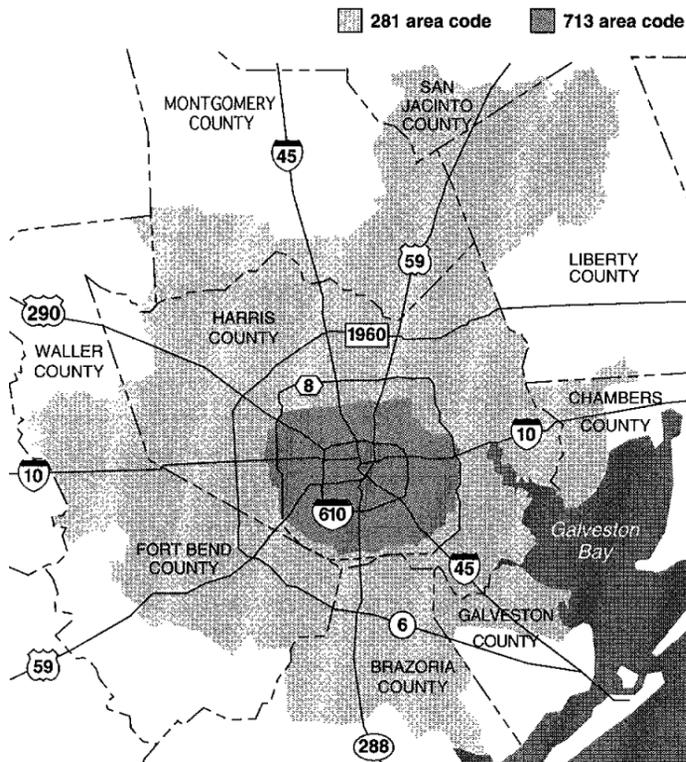
After the transition period, employees still will be able to call numbers in the 713 area code without paying long distance charges and without placing a one before the 10-digit number. The emergency number will remain 911 in Houston and the surrounding community and x33333 at JSC. Directory assistance will continue to be 1411.

In general, most calls that were dialed as non-toll will continue to be non-toll, but new dialing procedures will mandate calls to some locations be dialed as toll calls.

"Calls to Baytown and Alvin exchanges must be dialed as a toll call and will require dialing a 1," White said. "Calls from JSC to 713 area code numbers will not be toll calls."

White said that employees can begin now to prepare for the new area code.

The Business and Information Systems Directorate is taking action to correct after-hour recorded messages and system speed numbers.



### A user at JSC (including Ellington Field) calling:

			Example
On-site to On-site	No change	5 digits	37123
On-site to Off-site (non-toll)	Calls to 281	8 digits	9 + 574-1234
	Calls to 713	11 digits	9 + (713) 876-9876
On-site to Off-site (toll)	No change	11 digits	9 + 1+ (ac) + 7 digits
Off-site to On-site	Calls from 281	7 digits	483-0123
	Calls from 713	10 digits	(281) 483-0123
Using a cellular phone (with a 713 area code)	Calls to 281	10 digits	(281) 574-1234
	Calls to 713	7 digits	876-9876
Calling a pager		11 digits	9 + (713) 891-xxxx key in 10 digits

## Shepherd arrives in Star City to begin space station mission training

(Continued from page 1)

what we've been able to learn from our limited conversations with him," Cardena said. "It's been very beneficial for him that while Shannon Lucid was up there he could talk to her, get her feelings and impressions of life aboard the Mir, working in that environment. It's a different way of doing business, a different system, a different culture."

Those who will follow Blaha on Mir and continue the research are undergoing training

in Star City, Russia. Astronaut Jerry Linenger's training is concentrating on Mir payload systems, while Astronaut Mike Foale recently completed his Russian oral exam on the Mir's life support systems. Astronauts Wendy Lawrence and David Wolf underwent preliminary physical examinations and continued their Russian language studies, while Astronaut Jim Voss received more instruction on Mir life support systems.

Astronaut Bill Shepherd recently arrived in

Star City to begin training for his 1998 mission to the International Space Station. Shepherd will command the first crew to live and work on board the new station, which the NASA-Mir program is helping to advance, as Mir's science agenda includes testing materials and equipment planned for the International Space Station. Linenger recently discussed the purpose of these risk mitigation experiments.

"We build a new piece of gear, we send it up to this platform, the Mir space station, we

look at how it operates up there, and just like anything it improves when you tweak it a little bit," Linenger said. "So we'll be up there tweaking a lot of the electronic gear, a lot of these experiments.... We'll check out how that equipment works, we'll bring it back on shuttle missions, we'll take a look at it, we'll improve it, and by the time we get to the International Space Station we should have some second- and third-generation science gear."

## ISO 9000 familiarization seminar set

(Continued from page 1)

the ISO 9001 requirements.

WSTF's top managers were motivated by the belief that improvements in the quality system would provide even greater payback in product quality and customer satisfaction, McCright said. The management also believed that the hazardous nature of the White Sands activities demanded the most rigorous quality system that they could implement.

JSC managers will have two additional opportunities to attend familiarization classes. The first will be from 8:30-11:30 a.m. Wednesday in the Bldg. 30 auditorium, and from 2-5 p.m. Friday in Bldg. 4S, Rm. 6600. All JSC supervisors and managers who have not

attended previous ISO 9000 classes are expected to attend.

"The White Sands experience provides an excellent foundation for the JSC ISO 9001 certification effort currently underway at the center," said Lee Norbraten, deputy director of the newly formed ISO 9000 Project Office. "We face most of the same issues as our colleagues at White Sands, but on a much grander scale."

McCright said JSC should follow his facility's example and set an ambitious goal for certification, establish a well-defined scope that represents the core business of the organization, use the best and brightest people across the center as the leaders of the implementation effort, establish a centralized

control system for a well defined set of documents, provide training opportunities for all employees, establish a strong internal audit process in preparation for a third-party registration audit, avoid the reinvention of procedures and work instructions that are already mature and do not underestimate the inherent resistance to change that exists in every organization.

White Sands received its third-party registration in October 1995. White Sands became the first ISO 9000 government/contractor partnership. NASA and AlliedSignal Technical Services Corporation employees at WSTF were honored with the Vice President's National Performance Review "Golden Hammer" award.

## Space News Roundup

The Roundup is an official publication of the National Aeronautics and Space Administration, Lyndon B. Johnson Space Center, Houston, Texas, and is published every Friday by the Public Affairs Office.

The Roundup office is located in Bldg. 2, Rm. 181. The mail code is AP2. The main Roundup telephone number is x38648 and the fax number is x45165.

Electronic mail messages should be sent to the editor, khumphri@gp301.jsc.nasa.gov or the associate editor, kscheidt@gp301.jsc.nasa.gov.  
Editor ..... Kelly Humphries  
Managing Editor ..... Karen Schmidt  
Associate Editor ..... Natasha Calder

## Artifacts to be on display next week

In observance of National Native American Month, the Equal Opportunity Programs Office and representatives from JSC's Native American workforce will display a cultural exhibit Tuesday and Wednesday. The exhibit will be available from 11 a.m.-1 p.m. in the Bldg. 3 cafeteria executive dining room.

The exhibit will include pictures of JSC employees who are of Native American heritage and their tribal affiliation. This exhibit will provide an opportunity for all JSC employees to gain an appreciation of the Native American heritage and their contribution to the NASA mission. For more information call Pat Burke at x30606.